

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today
(1) was not written for publication in a law journal and
(2) is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JULIAN J. SANCHEZ

Appeal No. 1996-2947
Application 08/203,685¹

ON BRIEF

Before THOMAS, BARRETT and FRAHM, Administrative Patent
Judges.

THOMAS, Administrative Patent Judge.

DECISION ON APPEAL

¹ Application for patent filed February 28, 1994. According to applicant, this application is a Continuation of Application 07/960,542, filed October 13, 1992.

Appellant has appealed to the Board from the examiner's final rejection of claims 1 through 9, which constitute all the claims in the application.

Claim 1 is reproduced below:

1. A high-speed submicron channel metal oxide semiconductor transistor which exhibits excellent punchthrough characteristics and which is ideal for VLSI circuits, formed on a semiconductor substrate of a first conductivity type having a first concentration comprising:

a gate insulating layer formed on said substrate;

an inner gate electrode of a predetermined length and width formed on said gate insulating layer, said inner gate electrode including laterally opposite sidewalls along said width of said inner gate electrode;

a first punchthrough stop region and a second punchthrough stop region of a second concentration of said first conductivity type wherein said second concentration of said first conductivity type is greater than said first concentration of said first conductivity type, said first punchthrough stop region and said second punchthrough stop region disposed in said substrate in alignment with said laterally opposite sidewalls of said inner gate electrode, respectively;

a first conductive spacer and a second conductive spacer formed on said gate insulating layer over a portion of said first punchthrough stop region and said second punchthrough stop region, respectively, said first conductive spacer and said second conductive spacer adjacent to and in electrical contact with respective laterally opposite sidewalls of said inner gate electrode, said first conductive spacer and said

Appeal No. 1996-2947
Application 08/203,685

second conductive spacer forming along with said inner gate electrode a MOSFET gate electrode; and

a first source region and a first drain region of a first concentration of a second conductivity type disposed in said first punchthrough stop region and said second punchthrough stop region, respectively, self-aligned with the outer edge of said first conductive spacer and said second conductive spacer, respectively.

The following references are relied on by the examiner:

Jain	4,949,136	Aug. 14,
1990		
Okumura	5,218,221	June 8, 1993
		(filed Apr. 20, 1992)

Claims 1 through 9 stand rejected under 35 U.S.C. § 103. As evidence of obviousness, the examiner relies upon Okumura alone as to claims 1, 2 and 5 through 9, with the addition of Jain as to claims 3 and 4.

Rather than repeat the positions of the appellant and the examiner, reference is made to the briefs and the answer for the respective details thereof.

OPINION

We reverse the above noted rejections of the claims on appeal under 35 U.S.C. § 103, essentially for the reasons set forth by appellant in the brief.

The examiner has not set forth a prima facie case of obviousness of independent claim 1 on appeal in light of the teachings and showings of Okumura's Figure 16D. Page 4 of the answer indicates that the examiner recognizes that "Okumura differs from the claimed invention by not having a pair of conductive spacers formed on the p type regions and formed adjacent to the gate electrode."

The answer continues by alleging that as to the subject matter of independent claim 1 on appeal it would have been obvious to the artisan "to have a pair of conductive spacers because they have an electrical characteristic similar to that of the left and right portions of the gate electrode of Okumura." As indicated at page 4 of the brief, appellant construes this reasoning as it would have been obvious to the artisan to have added or to have included a pair of the claimed conductive spacers according to the examiner's reasoning. The examiner's reasoning is faulty because it

Appeal No. 1996-2947
Application 08/203,685

considers obviousness in the present tense and not as to how and why it would have been obvious to the artisan within 35 U.S.C. § 103. As such, the examiner's expression of the obviousness of the subject matter of claim 1 on appeal is based upon prohibited hindsight.

Claim 1 on appeal presents structural distinctions, principally in the form of the first and second conductive spacer regions, which can not be explained away without additional evidence beyond Okumura alone to convince us of the obviousness of this claim on appeal, despite the examiner's view of functional similarities to the end product.

Since we reverse the rejection of independent claim 1, we also reverse the rejections of dependent claims 2 through 9. Accordingly, the decision of the examiner is reversed.

REVERSED

Appeal No. 1996-2947
Application 08/203,685

	James D. Thomas)	
	Administrative Patent Judge)	
)	
)	
)	
	Lee E. Barrett)	BOARD OF
PATENT			
	Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
)	
	Eric S. Frahm))
	Administrative Patent Judge)	

JDT/cam

Blakely, Sokoloff, Taylor & Zafman
12400 Wilshire Blvd., Seventh Floor
Los Angeles, CA 90025